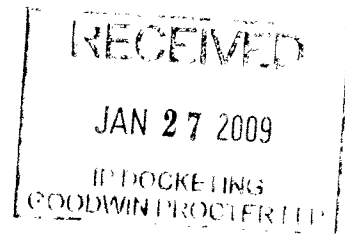


PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)



| | | |
|--|--|---|
| Applicant's or agent's file reference NUP-011PC | FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below. | |
| International application No. PCT/US2008/075986 | International filing date (day/month/year) 11/09/2008 | (Earliest) Priority Date (day/month/year) 29/10/2007 |
| Applicant CONTOUR SEMICONDUCTOR, INC. | | |

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of:

- ☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☐ **Unity of invention is lacking** (see Box No. III)

4. With regard to the **title**,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 2
☐ as suggested by the applicant
☒ as selected by this Authority, because the applicant failed to suggest a figure
☐ as selected by this Authority, because this figure better characterizes the invention
b. ☐ none of the figures is to be published with the abstract

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2008/075986

A. CLASSIFICATION OF SUBJECT MATTER

INV. G11C8/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G11C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|-----------------------|
| Y | US 2003/021176 A1 (HOGAN JOSH N [US] HOGAN JOSHUA N [US]) 30 January 2003 (2003-01-30) paragraphs [0015] - [0026]; figure 1 | 1-23 |
| Y | EP 0 202 892 A (FUJITSU LTD [JP]) 26 November 1986 (1986-11-26) column 1, line 44 - column 2, line 14; figures 3a-3b column 7, line 50 - column 10, line 19 | 1-23 |
| A | DE 101 11 454 A1 (INFINEON TECHNOLOGIES AG [DE]) 26 September 2002 (2002-09-26) the whole document | 1-23 |
| A | EP 0 257 926 A (ENERGY CONVERSION DEVICES INC [US]) 2 March 1988 (1988-03-02) figure 10 | 21 |

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *8* document member of the same patent family

Date of the actual completion of the international search

13 January 2009

Date of mailing of the international search report

22/01/2009

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
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Authorized officer

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/075986

PCT/US2008/075986

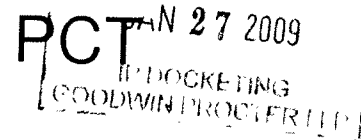
| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|----|---------------------|----------------------------|---------------------|
| US 2003021176 | A1 | 30-01-2003 | CN 1399282 A | 26-02-2003 |
| | | | DE 60206230 T2 | 20-07-2006 |
| | | | EP 1288957 A2 | 05-03-2003 |
| | | | JP 3989781 B2 | 10-10-2007 |
| | | | JP 2003109394 A | 11-04-2003 |
| | | | KR 20030014572 A | 19-02-2003 |
| | | | TW 223270 B | 01-11-2004 |
| EP 0202892 | A | 26-11-1986 | DE 3675815 D1 | 10-01-1991 |
| | | | JP 61292296 A | 23-12-1986 |
| | | | US 4757475 A | 12-07-1988 |
| DE 10111454 | A1 | 26-09-2002 | NONE | |
| EP 0257926 | A | 02-03-1988 | CA 1329239 C | 03-05-1994 |
| | | | JP 63087765 A | 19-04-1988 |
| | | | US 4782340 A | 01-11-1988 |

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220



WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing

(day.month.year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION

See paragraph 2 below

International application No.
PCT/US2008/075986

International filing date (day.month.year)
11.09.2008

Priority date (day.month.year)
29.10.2007

International Patent Classification (IPC) or both national classification and IPC
INV. G11C8/10

Applicant

CONTOUR SEMICONDUCTOR, INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office - P B 5818 Patentlaan 2
NL-2280 HV Rijswijk - Pays Bas
Tel. +31 70 340 - 2040 Tx. 31 651 epo nl
See form PCT/ISA/210

Date of completion of
this opinion

Authorized Officer

Czarik, Damien



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2008/075986

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ on paper
 - ☐ in electronic form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in electronic form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2008/075986

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|-------------|
| Novelty (N) | Yes: Claims | <u>1-23</u> |
| | No: Claims | |
| Inventive step (IS) | Yes: Claims | |
| | No: Claims | <u>1-23</u> |
| Industrial applicability (IA) | Yes: Claims | <u>1-23</u> |
| | No: Claims | |

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Reference is made to the following documents cited in the search report:

D1: US 2003/021176 A1 (HOGAN JOSH N [US] HOGAN JOSHUA N [US]) 30
January 2003 (2003-01-30)

D2: EP-A-0 202 892 (FUJITSU LTD [JP]) 26 November 1986 (1986-11-26)

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 and 21 does not involve an inventive step in the sense of Article 33(3) PCT.

2.1 Document D1, discloses in figure 1 an electronic memory device comprising:

- information circuitry for storing and facilitating retrieval of information comprising:
 - a first plurality of generally parallel conductors (18 in fig. 1),
 - a second plurality of generally parallel conductors overlapping the first plurality of generally parallel conductors (20 in fig. 1),
 - a plurality of storage locations each disposed proximate to a point of overlap between the first and second pluralities of generally parallel conductors, and
 - a plurality of nonlinear conductive devices (16 in fig. 1) each disposed at a storage location;
- selection circuitry (34+12 and 44+14 in fig. 1) for selecting one of the plurality of rows and one of the plurality of columns in order to read from or write to the information circuitry.

D1 does not disclose a plurality of row and column switches connected to one of the first or second plurality of generally parallel conductors and selected by the selection circuitry.

These switches present in the memory device of claim 1 allow for a better tradeoff between operating speed and power consumption. Precharge transistors 36 of prior art memory D2 can be larger and thus minimize power loss when deselected rows are pulled low while still allowing for a rapid connection of the selected row to Vcc or Vpp.

Document D2 discloses in figures 3A and 3B an electronic memory device comprising:

- information circuitry for storing and facilitating retrieval of information comprising:
 - a first plurality of generally parallel conductors (word lines WLi in fig. 3B)
 - a second plurality of generally parallel conductors overlapping the first plurality of generally parallel conductors (bit lines BL in fig. 3B),
 - a plurality of storage locations (memory cells MC in fig. 3B) each disposed proximate to a point of overlap between the first and second pluralities of generally parallel conductors, and
- a plurality of row switches (Q11, Q21 in fig. 3B) each connected to one of the first plurality of generally parallel conductors;
- selection circuitry for selecting one of the plurality of row switches in order to read from or write to the information circuitry.

In other words, document D2 describes a memory with an address decoder combining a diode matrix decoder with switches for driving selected lines. According to D2, such a decoder improves trade-off between operating speed and power consumption (D2, col. 1, l. 44-col. 2, l. 14).

The person skilled in the art, when the same result is to be achieved, would therefore replace the row and column decoders of D1 with the decoder of D2, thereby arriving at memory device according to claim 1, without the exercise of inventive skill.

Claim 1 therefore lacks inventive step.

2.2 The operation of the diode matrix decoder described in document D2 is the same as in the application (D2, col. 9, l. 34- col. 10, l. 19). When an address is input in the address buffer (4 in fig. 3B), all but one of the lines connected to the row switches (Q11, Q21 in fig. 3B) are pulled to low. The selected row line is pulled to high and its associated switch drives the word line to high.

A precharge voltage is applied via precharge resistors (R11, R21 in fig. 3B).

The skilled person using the same type of decoder for both row and column would obviously use the same operating method for both row and column decoders.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/US2008/075986

The method claim 21 therefore also lacks inventive step.

3. Dependent claims 2-20 and 22-23 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step. (see document and the corresponding passages cited in the search report).